
TEK

**Quick
Reference**

070-8193-00
Product Group 47

**THE
11402A
& 11403A**

**DIGITIZING
OSCILLOSCOPE**

*Please check for
CHANGE INFORMATION
at the rear of this manual*

Tektronix®
COMMITTED TO EXCELLENCE

Instrument Serial Numbers

Each instrument manufactured by Tektronix has a serial number on a panel insert or tag, or stamped on the chassis. The first letter in the serial number designates the country of manufacture. The last five digits of the serial number are assigned sequentially and are unique to each instrument. Those manufactured in the United States have six unique digits. The country of manufacture is identified as follows:

B010000	Tektronix, Inc., Beaverton, Oregon, USA
E200000	Tektronix United Kingdom, Ltd., London
J300000	Sony/Tektronix, Japan
H700000	Tektronix Holland, NV, Heerenveen, The Netherlands

Instruments manufactured for Tektronix by external vendors outside the United States are assigned a two digit alpha code to identify the country of manufacture (e.g., JP for Japan, HK for Hong Kong, etc.).

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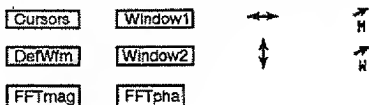
Task Reference

This section of the Quick Reference lists common tasks you can perform using the 11402A and 11403A Digitizing Oscilloscopes, and the steps to take to execute each task. Tasks are sorted into groups.

Key to symbols used in this reference:

-  a button on the front panel
-  a selection from the major menu area
-  a selection from a pop-up menu
-  an adjustment performed using the knobs

Icons that appear on the display:



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Basics

Clearing All Settings

 UTILITY,  Initialize

Checking the ROM Version

 UTILITY,  Ident, *Read firmware versions in the pop-up menu under FW Vers.*



Engaging Enhanced Accuracy

  ENHANCED ACCURACY

Initializing the Scope

 UTILITY,  Initialize

Removing Pop-Up Menus

Touch anywhere in graticule outside pop-up menu. Alternate:  touch highlighted selector that displayed pop-up. Alternate:  press any menu button

Setting the Time and Date





 UTILITY,  Time & Date,  select item to change,  adjust using knobs

Turning On the Scope




*Set rear panel Principal Power Switch to ON,
Set  Standby to ON*

Changing the Display

Display Colors (11403A only)

 UTILITY,  Color,  select color to be set from top of pop-up, then use Hue, Lightness, and Saturation with  knobs. Select next color and continue. Previous Colors resets all colors to what they were when the pop-up was first displayed.





Assigning Colors to Waveforms

Select waveform,  UTILITY,  Color,  Selected Wfm Color repeatedly until set to desired color. Window waveforms cannot be reassigned

Resetting Colors




 UTILITY,  Color,  Default Color

Display Intensity (overall)




 UTILITY,  Color,  Overall Intensity,  either knob

Graticules




Creating a Second Graticule

 WAVEFORM,  Graticules,  Create Second Graticule







Moving Waveforms Between Graticules

 WAVEFORM,  Graticules,  Reduce to Single Graticule









Removing the Second Graticule

 WAVEFORM,  Graticules,  Reduce to Single Graticule




Changing Persistence Mode

 WAVEFORM,  Horizontal Desc,  Normal, Infinite Persist, or Variable Persist. *Alternate (11403A, Option 1S only):*  EXTENDED FEATURES,  Persist/Histograms,  Normal, Variable, Infinite, or Color Grading (*color grading can be selected only if both the Main and Window record length is set to 512 points*)

Changing Persistence Time

 WAVEFORM,  Horizontal Desc,  Persist Time,  Either knob. *Alternate (11403A, Option 1S only):*  EXTENDED FEATURES  Persist/Histograms,  Persist Time,  Either knob

Clearing Waveforms

Select waveform,  WAVEFORM,  Remove/Clr Wfm #,  Clear Wfm #

Window Operations

Creating a Window

Select source waveform, or

Removing a Window

Select window waveform to delete,

Removing a Waveform

Select waveform to delete,

Acquiring Waveforms

Acquiring with Autoset

☐ AUTOSSET button. Alternate: Probe ID button, if set

Applying Math Functions to a Waveform

☐ WAVEFORM, ☐ Vertical Desc, ☐ as needed then Enter Desc

Create a New Waveform

☐ DefWfm and ☐ as needed (all waveforms). Alternate: ☐ Input channel (single-channel waveforms only)

FFT Displays (11403A Only)

Defining an FFT

☐ DefWfm, ☐ Page↓, FFTmag(or FFTphase, ☐ select the channel or define an arbitrary waveform, ☐) then Enter Desc. Alternate: Select the desired waveform, then FFTmag

Frequency Span/div

↔, ☐ Top knob

Frequency Resolution

↔, ☐ Bottom knob

FFT Scaling

☐ UTILITY, ☐ Modes, ☐ FFT Scaling

FFT Window

☐ UTILITY, ☐ Modes, ☐ FFT Window

Displaying Waveforms

Changing Vertical Controls

Volts/Div (Vertical Size)

Select waveform, \uparrow , \odot Top knob

Vertical Position (Offset)

Select waveform, \uparrow , \odot Bottom knob

Changing Horizontal Controls

Horizontal Position (Main Position)

Select waveform, \leftrightarrow , \odot Bottom knob

Time/Div (Main Size)

Select waveform, \leftrightarrow , \odot Top knob

Using Pan and Zoom

Select waveform, \leftrightarrow , \equiv Pan/Zoom to On,
 \odot Top knob for magnification, Bottom knob for position

Changing Trigger Settings

Trigger Coupling

\square TRIGGER, \equiv Trigger Select (Main or Window) then Coupling, \equiv select coupling method




Trigger Level

\overline{H} or \overline{H} , \odot Top knob. Alternate: \square TRIGGER, \equiv Level, \odot Top knob



Trigger Holdoff

\overline{H} or \overline{H} , \odot Bottom knob. Alternate: \square TRIGGER, \equiv Time Holdoff, \odot Bottom knob

Trigger Source





 TRIGGER,  Trigger Select (Main or Window) *then* Source Desc,  type description *then* Enter Desc

Trigger Slope





 TRIGGER,  Trigger Select (Main or Window) *then* Slope

Setting Record Length

Main Record Length




 WAVEFORM,  Horizontal Desc,  Main Record Length,  *Top knob*

Window Record Length




 WAVEFORM,  Horizontal Desc,  Window Record Length,  *Bottom knob*

Labeling Waveforms and Settings

Creating a Label

 UTILITY,  Label,  select entity to display (first Displayed Waveforms, Stored Waveforms, or Stored Settings, then the entity from the list below), then type label (from key list of Upper Case, Lower Case, or Numbers). Back Space to correct errors. Touch Display to display label. Exit

Changing or Deleting the Label


 UTILITY,  Label,  select entity to change or delete (first Displayed Waveforms, Stored Waveforms, or Stored Settings, then the entity from the list below), then type label (from key list of Upper Case, Lower Case, or Numbers). Back Space to correct errors or delete text. Exit

Positioning the Label

Select waveform,  UTILITY,  Label  Displayed Waveforms then Position,  to move

Making a Hardcopy





Setting Hardcopy Parameters

  UTILITY,  Hardcopy,  as necessary

Initiating a Hardcopy




 HARDCOPY

Aborting a Hardcopy






  UTILITY,  Hardcopy,  Hardcopy
Abort

Measurement Functions

Taking Measurements

 MEASURE,  Measurements,  *select measurement*




Taking a Measurement on More than One Waveform

 MEASURE,  Measurements,  *select measurement*,  *select measurement*,  *Measured Waveform until desired waveform is assigned*





Taking Measurements on Noisy or Jittery Waveforms

Using Histograms
(11403A, Option 1S only)

 EXTENDED FEATURES,  Persist/Histograms,  *Vertical Histogram or Horizontal Histogram*





Changing the Size of the Histogram Box —  Persist/Histograms,  *Vertical Limits or Horizontal Limits*,  *Top or bottom knob as needed*

Changing Histogram Scaling —  Persist/Histograms,  *Histogram Scaling*






Limiting Acquisitions —  Persist/Histograms,  *Set N Waveform or Set N Samples*,  *Adjust either knob*,  *Stop N Waveform or Stop N Samples*

Setting Up GPIB





Mode

  UTILITY,  GPIB,  Mode as *necessary*





Address

  UTILITY,  GPIB,  Address  to *desired address*

Terminator


  UTILITY,  GPIB,  Terminator as *necessary*

Debug





  UTILITY,  GPIB,  Debug as *necessary*

Setting RS-232-C Parameters





Baud Rate

  UTILITY,  RS232C,  *Bottom knob*





Echo

  UTILITY,  RS232C,  *Echo, as necessary*





Stop Bits

  UTILITY,  RS232C,  *Stop Bits, as necessary*

Parity

  UTILITY,  RS232C,  *Parity, as necessary*





Flagging

  UTILITY,  RS232C,  *Flagging, as necessary*

Delay

  UTILITY,  RS232C,  *Delay*,  *Top knob*

EOL String

  UTILITY,  RS232C,  *EOL String, as necessary*

Verbose Mode




  UTILITY,  RS232C,  *Verbose*

Debug Mode






  UTILITY,  RS232C,  *Debug*

Storing Waveforms and Settings

Waveforms

 STORE/RECALL,  Store Waveform,  select waveform or Store All

Settings





 STORE/RECALL,  Store Setting,  select associated menu at bottom of pop-up menu, then Set Next FPS and  either knob, then  Store Next FPS

Using Diagnostics

Self-Test Diagnostics

  UTILITY,  Self Test





Extended Diagnostics

  UTILITY,  Extended Diagnostic,
 Extended Diagnostic *then run desired tests,*
then Exit, Exit











Command Reference

This section of the quick reference lists the functions you can perform using the 11402A and 11403A Digitizing Oscilloscopes, and the steps to take to execute each function. Functions are listed in alphabetical order.

Key to symbols used in this reference:

-  a button on the front panel
-  a selection from the major menu area
-  a selection from a pop-up menu
-  an adjustment performed using the knobs

Icons that appear on the display:

A to B, intensified zone
see *Window*

Abort Hardcopy

☐ ☐ UTILITY, ☐ Hardcopy, ☐ Hardcopy
Abort

AC Coupling, trigger

☐ TRIGGER, ☐ Trigger Select (Main or Win-
dow) then Coupling, ☐ AC

AC Coupling, vertical channel

☐ WAVEFORM, ☐ Coupling, select channel
then ☐ AC

Acquiring Time Base Main or Window

☐ WAVEFORM, ☐ observe Horizontal Desc
status area

Acquisition, on/off

☐ DIGITIZER Run/Stop

Add Waveform

☐ DefWfm and ☐ as needed (all waveforms), then
Enter Desc. Alternate: ☐ Input channel (single-
channel waveforms only)

Address, GPIB

☐ ☐ UTILITY, ☐ GPIB, ☐ Address

Annotation, Measurement

☐ MEASURE, ☐ selector displaying mea-
surement value

Area, measurements

☐ MEASURE, ☐ Measurements, ☐ Area +
or Area-




Assign Measurement, assigning a measurement
to a waveform

☐ MEASURE, ☐ Measurements, ☐ select
measurement, ☐ select measurement,
☐ Measured Waveform until desired waveform
is assigned




Audio Feedback, on/off

☐ UTILITY, ☐ Modes, ☐ Audio Feedback


Auto Level Trigger Mode

 TRIGGER,  Trigger Select (Main or Window) *then* Mode,  Auto Level




Auto Trigger Mode

 TRIGGER,  Trigger Select (Main or Window) *then* Mode,  Auto



Autoset

 AUTOSSET *button. Alternate: Probe ID button, if set*




Autoset, set probe ID button

 UTILITY,  Probes,  Wfm Select/New Wfm & Autoset

Autoset, undo

 UTILITY,  Modes,  Undo Last Autoset





Autoset Options, configuring

 UTILITY,  Modes,  Vertical and Horizontal

Average, on/off

 WAVEFORM,  Acquire Desc,  Average N

Average, set N

 WAVEFORM,  Acquire Desc,  Set AvgN,  Top knob




Axis

see Graticule





B Sweep

see Window





Bandwidth Limit

 WAVEFORM,  BW Limit,  select channel *then* select limit

Baseline, default measurement parameter

 MEASURE,  Stats Comp Test & Def,  Default Parameters *then* Baseline *then*  Bottom knob

Baud Rate, RS-232-C

  UTILITY,  RS232C,  Baud Rate,
Ⓢ Bottom knob




Beeping, on/off

 UTILITY,  Modes,  Audio Feedback



Brightness

see Intensity




Calculations, waveform

 WAVEFORM,  Vertical Desc,  as needed then Enter Desc

Calibrate (internal), oscilloscope

  ENHANCED ACCURACY




Calibrate, probes

 UTILITY,  Probes, connect probe or input to calibrator and  select channel





Channel Select

 Input channel. Alternate: ,  as needed

Clear, delete displayed or stored waveform

 STORE/RECALL,  Delete Waveform,  select individual waveform(s) or All Waveforms, Delete Selected Waveforms




Clear, waveform data points

 STORE/RECALL,  Clear Waveform,  as needed. Alternate: Select waveform,  Remove/Clr Wfm #, Clear Wfm #

Coarse, knob resolution

 Knob label,  Coarse

Color, change waveform assignment

Select waveform,  UTILITY,  Color,  Selected Wfm Color repeatedly until set to desired color. Window waveforms cannot be re-assigned

Color, default all (11403A only)

 UTILITY,  Color,  Default Color

Color, default one (11403A only)

☐ UTILITY, ☐ Color, ☐ select color to be reset from top of pop-up, then Default Color

Color, set one or more (11403A only)

☐ UTILITY, ☐ Color, ☐ select color to be set from top of pop-up, then use Hue, Lightness, and Saturation with ☐ knobs. Select next color and continue. Previous Colors resets all colors to what they were when the pop-up was first displayed.

Color Grading, on/off
(11403A, Option 1S only)

☐ EXTENDED FEATURES, ☐ Persist/Histograms, ☐ Color Grading. Note: both Main and Window record lengths must be set to 512 points to use the Color Grading mode.

Color Grading, display scaling
(11403A, Option 1S only)

☐ EXTENDED FEATURES, ☐ Color Grad Scale

Communication parameters

☐ ☐ UTILITY, ☐ RS232C or GPIB, ☐ as needed

Compare, measurement on/off

☐ MEASURE, ☐ Stats Comp Test & Def, ☐ Compare Options then Compare (on/off)

Compare, set measurement reference value

☐ MEASURE, ☐ Stats Comp Test & Def, ☐ Compare Options then Measure Selected Wfm Save as References or adjust by touching a measurement reference selector in "Adjust References" section, use ☐ either knob




Compensation, probe

☐ UTILITY, ☐ Probes, connect probe or input to calibrator and ☐ select channel




Conditional Acquisition

☐ WAVEFORM, ☐ Acquire Desc, ☐ %Fill Complete or Single Trigger or Continuous or Average Complete or Envelope Complete or Both Avg & Env





Contrast, default all (11402A only)

 UTILITY,  Intensity,  Default Contrast





Contrast, default one (11402A only)

 UTILITY,  Intensity,  select contrast to be reset from top of pop-up, then Default Contrast

Contrast, overall

 UTILITY,  Color (11403A) or Intensity (11402A),  Overall Intensity,  either knob




Contrast, set one or more (11402A only)

 UTILITY,  Intensity,  select contrast to be set from top of pop-up,  knobs. Select next contrast and continue. Previous Contrast resets all contrasts to what they were when the pop-up was first displayed.

Copy

see Hardcopy




Coupling, trigger

 TRIGGER,  Trigger Select (Main or Window) then Coupling,  as needed




Coupling, vertical channel

 WAVEFORM,  Coupling,  select channel then select coupling




Create New Waveform

 DerWfm and  as needed (all waveforms). Alternate:  Input channel (single-channel waveforms only)

Cross, measurement

 MEASURE,  Measurements,  Cross

Cursors, across two waveforms

Select first waveform,  Cursors,  Cursor Type,  Split Dots then selector for second waveform

Cursors, auto measurement area

see Annotation, measurement

Cursors, setting type

Select waveform, ☐ Cursors, ☐ Cursor Type,
☐ select type

Cursors, turning off

☐ Page to Previous Menu. Alternate: ☐ WAVEFORM

Cursors, turning on

Select waveform, ☐ Cursors

Data Interval, default measurement parameter

☐ MEASURE, ☐ Stats Comp Test & Def,
☐ Default Parameters *then* Data Interval

Date, set

☐ UTILITY, ☐ Time & Date, ☐ select item to change, ☐ knob

DC Coupling, trigger

☐ TRIGGER, ☐ Trigger Select (Main or Window) *then* Coupling, ☐ DC

DC Coupling, vertical channel

☐ WAVEFORM, ☐ Coupling, ☐ select channel *then* DC

Debug Mode, programming

☐ ☐ UTILITY, ☐ RS232C or GPIB, ☐ Debug

Default, measurement parameter

☐ MEASURE, ☐ Stats Comp Test & Def,
☐ Default Parameters *then* select parameter,
☐ knob

Define, new waveform

☐ DefWfm and ☐ as needed (all waveforms). Alternate: ☐ Input channel (single-channel waveforms only)




Delay by Events or Time

see Holdoff

Delay, RS-232-C

☐ ☐ UTILITY, ☐ RS232C, ☐ Delay,
☐ Top knob




Delay, timing measurement

 MEASURE,  Measurements,  Delay



Delayed Sweep

see Window




Delete, displayed or stored waveform

 STORE/RECALL,  Delete Waveform,
 *select individual waveform(s) or All Waveforms*, Delete Selected Waveforms




Delete, displayed waveform

Select waveform to delete,  Remove/Clr Wfm #,  Remove Wfm #





Delete, stored setting

 STORE/RECALL,  Delete Setting,  *select individual settings or All Settings*, Delete Selected Settings


Deskew, probe

 UTILITY,  Probes, *connect probe or input to calibrator and*  *select channel*





Diagnostics, extended

  UTILITY,  Extended Diagnostic,
 *Extended Diagnostic then run desired tests then Exit*




Diagnostics, self test

  UTILITY,  Self Test





Display Intensity, adjustment

 UTILITY,  Color (11403A) or Intensity (11402A),  Overall Intensity,  *either knob*




Display Mode, vector on/off

 UTILITY,  Modes,  Vectored Waveforms




Distal, default measurement parameter

 MEASURE,  Stats Comp Test & Def,
 *Default Parameters then Distal then*  *Top knob*

Dot Cursors

Select waveform,  *Cursors*,  Cursor Type,
 Paired Dots

Duty Cycle, timing measurement

 MEASURE,  Measurements,  Duty Cycle

Echo, RS-232-C

  UTILITY,  RS232C,  Echo




ECL, Autoset mode

 UTILITY,  Modes,  Vertical




Edge, Autoset mode

 UTILITY,  Modes,  Horizontal



Energy, measurement

 MEASURE,  Measurements,  Energy




Enhanced Accuracy, set auto or manual

 UTILITY,  Modes,  Enhanced Accuracy Mode





Enhanced Accuracy, execute

  ENHANCED ACCURACY

Envelope, on/off

 WAVEFORM,  Acquire Desc,  Envelope N

Envelope, set N

 WAVEFORM,  Acquire Desc,  Set EnvN,  Bottom knob





EOL String, RS-232-C

  UTILITY,  RS232C,  EOL String




Events, delay window trigger by

see Holdoff




Extended Diagnostics

  UTILITY,  Extended Diagnostic,  Extended Diagnostic *then run desired tests then Exit*

Extinction Ratio, amplitude measurement

 MEASURE,  Measurements,  Extinction Ratio



Fall Time, timing measurement

 MEASURE,  Measurements,  Fall




Fast (definition)

Integer waveform computations. See Forced to force High Prec floating-point computations.




FFT, magnitude display (11403A only)

 DefWfm, FFTmag(, select channel,), Enter
Desc. Alternate: Select waveform, 




FFT, phase display (11403A only)

 DefWfm, FFTphase(, select channel,), Enter
Desc. Alternate: Select waveform, ,





FFT, scaling (11403A only)

 UTILITY,  Modes,  FFTScaling



FFT, window (11403A only)

 UTILITY,  Modes,  FFTWindow

Filter, trigger coupling

 TRIGGER,  Trigger Select (Main or Window) then Coupling,  select desired coupling




Fine, knob resolution

 Knob label,  Fine




Flagging, RS-232-C

  UTILITY,  RS232C,  Flagging

Forced, high-precision waveform scaling

 UTILITY,  Modes,  Waveform Scaling
to Forced (all new complex waveforms will be High Prec). See High Prec

Frequency, timing measurement

 MEASURE,  Measurements,  Frequency

Front-Panel Setting

see Setting

Functions, waveform

☐ WAVEFORM, ☐ Vertical Desc, ☐ as needed then Enter Desc

Gain, amplitude measurement

☐ MEASURE, ☐ Measurements, ☐ Gain

GPIO Parameters

☐ ☐ UTILITY, ☐ GPIO, ☐ as needed

Graticule, create second

☐ WAVEFORM, ☐ Graticules, ☐ Create Second Graticule

Gray Shade, default all (11402A only)

☐ UTILITY, ☐ Intensity, ☐ Default Contrast

Gray Shade, default one (11402A only)

☐ UTILITY, ☐ Intensity, ☐ select contrast to be reset from top of pop-up, then Default Contrast

Gray Shade, set one or more (11402A only)

☐ UTILITY, ☐ Intensity, ☐ select contrast to be set from top of pop-up, ☐ knobs. Select next contrast and continue. Previous Contrast resets all contrasts to what they were when the pop-up was first displayed.

Hardcopy, abort

☐ ☐ UTILITY, ☐ Hardcopy, ☐ Hardcopy Abort

Hardcopy, make

☐ HARDCOPY

Hardcopy, set mode

☐ ☐ UTILITY, ☐ Hardcopy, ☐ as necessary

High Pass Filter, trigger coupling





☐ TRIGGER, ☐ Trigger Select (Main or Window) then Coupling, ☐ select coupling

High Prec (definition)

Floating-point waveform computations. All waveforms using multiplication, division, or certain functions will always be High Prec. Other waveforms can be High Prec — see Forced




Histograms, adjusting limits

(11403A, Option 1S only)




-  EXTENDED FEATURES,  Persist/Histograms,  Vertical Limits or Horizontal Limits,  either knob as appropriate

Histograms, on/off




(11403A, Option 1S only)

-  EXTENDED FEATURES,  Persist/Histograms,  Vertical Histogram or Horizontal Histogram






Holdoff window trigger by events, establishing

-  TRIGGER,  Window Holdoff Md,  Holdoff by Events Triggered from Window




Holdoff window trigger by time, establishing

-  TRIGGER,  Window Holdoff Md,  Holdoff by Time Triggered from Window




Holdoff window trigger by time or events, adjusting

-   Bottom knob. Alternate:  TRIGGER,  Time Holdoff or Events Holdoff,  Bottom knob

Holdoff, window trigger, removing




-  TRIGGER,  Window Holdoff Md,  No Holdoff Triggered from Main

Horizontal Bar Cursors




- Select waveform,  Cursors,  Cursor Type,  Horizontal Bars

Horizontal Histograms, on/off



(11403A, Option 1S only)

-  EXTENDED FEATURES,  Persist/Histograms,  Horizontal Histogram



Horizontal Magnify

- Select waveform, ,  Pan/Zoom to On,  Top knob for magnification, Bottom knob for position

Horizontal Position

- Select waveform, ,  Bottom knob

Horizontal Size

- Select waveform, ,  Top knob

Impedance, Signal

☐ WAVEFORM, ☐ Impedance, ☐ select channel then select impedance

Infinite Persistence, on/off (11403A only)

☐ WAVEFORM, ☐ Horizontal Desc, ☐ Infinite Persist. Alternate (Option 1S only):

☐ EXTENDED FEATURES, ☐ Persist/Histograms, Infinite

Initialize, all default measurement parameters

☐ MEASURE, ☐ Stats Comp Test & Def, ☐ Default Parameters then Initialize Defaults

Initialize oscilloscope

☐ UTILITY, ☐ Initialize

Intensified Zone

see Window

Intensity, default all (11402A only)

☐ UTILITY, ☐ Intensity, ☐ Default Contrast

Intensity, default one (11402A only)

☐ UTILITY, ☐ Intensity, ☐ select contrast to be reset from top of pop-up, then Default Contrast

Intensity, overall display

☐ UTILITY, ☐ Color (11403A) or Intensity (11402A), ☐ Overall Intensity, ☐ either knob

Intensity, set one or more (11402A only)

☐ UTILITY, ☐ Intensity, ☐ select contrast to be set from top of pop-up, ☐ knobs. Select next contrast and continue. Previous Contrast resets all contrasts to what they were when the pop-up was first displayed.



Inverted Waveform

☐ DefWfm, ☐ -, then source description then Enter Desc

Jitter, timing measurement (11403A, Option 1S only)

☐ MEASURE, ☐ Measurements, ☐ Jitter (only with Color Grading on)




Keypad, numeric

 Knob label,  enter number, magnitude (m for milli, etc.) then Enter




Knob Resolution

 Knob label,  Coarse or Medium or Fine

Label, define and display

 UTILITY,  Label,  select entity to display (first Displayed Waveforms, Stored Waveforms, or Stored Settings, then the entity from the list below), then type label (from key list of Upper Case, Lower Case, or Numbers). Back Space to correct errors, then Display, Exit

Label, change or delete

 UTILITY,  Label,  select entity to change or delete (first Displayed Waveforms, Stored Waveforms, or Stored Settings, then the entity from the list below), then type label (from key list of Upper Case, Lower Case, or Numbers). Back Space to correct errors or delete text. Exit




Label, move

Select waveform,  UTILITY,  Label,  Displayed Waveforms then Position,  to move





Label, on/off

 UTILITY,  Label  Displayed Waveforms then Display, then Exit






Label, stored waveform time/date

 UTILITY,  Modes,  Stored Wfm Time/Date (shows time/date stamp on menu selectors for stored waveforms)

Left Limit, default measurement parameter

 MEASURE,  Stats Comp Test & Def,  Default Parameters then Left Limit,  Top knob

Level, trigger

 M or W,  Top knob. Alternate:  TRIGGER,  Level,  Top knob

Level Mode, default measurement parameter

- ☐ MEASURE, ☐ Stats Comp Test & Def,
- ☐ Default Parameters *then* Level Mode

Line Trigger

- ☐ TRIGGER, ☐ Trigger Select (Main or Window) *then* Source Desc, ☐ Line, Enter Desc

Low Pass Filter, trigger coupling

- ☐ TRIGGER, ☐ Trigger Select (Main or Window) *then* Coupling, ☐ select coupling

Main Position

Select waveform, \leftrightarrow , ☐ Bottom knob

Main Size

Select waveform, \leftrightarrow , ☐ Top knob

Main→Win Trigger, timing measurement

- ☐ MEASURE, ☐ Measurements,
- ☐ Main→Win Trig Time

Main, record length

- ☐ WAVEFORM, ☐ Horizontal Desc, ☐ Main Record Length, ☐ Top knob

Mask Testing, clear hits
(11403A, Option 1S only)

- ☐ EXTENDED FEATURES, ☐ Mask Testing,
- ☐ Clear Hits

Mask Testing, creating masks
(11403A, Option 1S only)

- ☐ EXTENDED FEATURES, ☐ Mask Testing,
- ☐ select a Mask # selector, select Edit Mask Definition, ☐ both knobs to specify a mask point, ☐ Add Point, add points as necessary,
- ☐ Exit Mask Editing.

Mask Testing, deleting masks
(11403A, Option 1S only)

- ☐ EXTENDED FEATURES, ☐ Mask Testing,
- ☐ Mask # for the mask to be deleted, Delete Mask Definition

Mask Testing, on/off
(11403A, Option 1S only)

- ☐ EXTENDED FEATURES, ☐ Mask Testing,
- Count Mask Hits



Mask Testing, set N mask hits
(11403A, Option 1S only)

 EXTENDED FEATURES,  Mask Testing,
 Mask #, Set N Mask Hits,  *either knob*




Mask Testing, set N waveforms
(11403A, Option 1S only)

 EXTENDED FEATURES,  Mask Testing,
 Mask #, Set N Waveforms,  *either knob*




Mask Testing, stop counting hits after N mask hits
(11403A, Option 1S only)

 EXTENDED FEATURES,  Mask Testing,
 Mask #, Stop N Mask Hits




Mask Testing, stop counting hits after N total hits
(11403A, Option 1S only)

 EXTENDED FEATURES,  Mask Testing,
 Mask #, Stop N Total Hits (*N is defined by
Set N Mask Hits value*)




Mask Testing, stop counting hits after N wave-
forms (11403A, Option 1S only)

 EXTENDED FEATURES,  Mask Testing,
 Mask #, Stop N Waveforms




Max, amplitude measurement

 MEASURE,  Measurements,  Max




Mean, amplitude measurement

 MEASURE,  Measurements,  Mean




Measured Waveform, assigning a measurement
to a waveform

 MEASURE,  *select measurement*,
 Measured Waveform *until measurement is
"assigned" to desired waveform*




Measurement, to remove all

 MEASURE,  Measurements,  Delete
All





Measurement, to select

 MEASURE,  Measurements,  *select
up to six*






Measurement Compare, on/off

 MEASURE,  Stats Comp Test & Def,
 Compare Options *then Compare (on/off)*




Measurement Compare, set compare value

 MEASURE,  Stats Comp Test & Def,
 Compare Options *then* Measure Selected
 Wfm Save as References or *adjust by touching*
a measurement reference selector in "Adjust
References" section, use  *either knob*





Measurement Statistics, on/off

 MEASURE,  Stats Comp Test & Def,
 Statistics
Note: Main→Win Trig Time measurement has
its own statistics control:  Main→Win Trig
 Time,  "Statistics" section



Measurement Statistics, restart logging

 MEASURE,  Stats Comp Test & Def,
 Reset



Measurement Statistics, set N

 MEASURE,  Stats Comp Test & Def,
 Statistics N,  *either knob*





Medium, knob resolution

 Knob label,  Medium

Menu, remove pop-up

Touch anywhere in graticule outside pop-up
menu. Alternate:  *touch highlighted selector*
that displayed pop-up. Alternate:  *press any*
menu button

Mesial, default measurement parameter

 MEASURE,  Stats Comp Test & Def,
 Default Parameters *then* Mesial,  *Top knob*

Mid, amplitude measurement

 MEASURE,  Measurements,  Mid




Min, amplitude measurement

 MEASURE,  Measurements,  Min




Mode, GPIB

  UTILITY,  GPIB,  Mode




Move Waveform to Other Graticule

Select waveform to move,  WAVEFORM,
 Upper Graticule or Lower Graticule,
 Move Waveform to Other Graticule




New Waveform

 and  as needed (all waveforms). Alternate:  Input channel (single-channel waveforms only)

Noise, amplitude measurement (11403A, Option 1S only)

 MEASURE,  Measurements,  Noise
(only with Color Grading on)



Noise Filter, trigger coupling

 TRIGGER,  Trigger Select (Main or Window) then Coupling,  select coupling



Normal Trigger Mode

 TRIGGER,  Trigger Select (Main or Window) then Mode,  Normal




Numeric Keypad

 Knob label,  enter number, magnitude (m for mill, etc.) then Enter




Offset, vertical position

Select waveform, ,  Bottom knob




Optional, fast or high-precision waveform scaling

 UTILITY,  Modes,  Waveform Scaling to Optional (new waveforms will be Fast or High Prec depending on calculations invoked.)




Overshoot, amplitude measurement

 MEASURE,  Measurements,  Over-shoot




Pan and Zoom, multiple waveforms

 UTILITY,  Modes,  Multitrace Pan/Zoom, then use Pan/Zoom as with single waveforms

Pan and Zoom, set pivot (center of magnification)

 UTILITY,  Modes,  Pan/Zoom Pivot




Pan and Zoom, using

Select waveform, ,  Pan/Zoom to On,  Top knob for magnification, Bottom knob for position




Parity, RS-232-C

  UTILITY,  RS232C,  Parity

Peak to Peak, amplitude measurement

 MEASURE,  Measurements,  Peak-Peak




Peak to Peak, Pk-Pk Autoset mode

 UTILITY,  Modes,  Vertical







Period, Autoset mode

 UTILITY,  Modes,  Horizontal




Period, timing measurement

 MEASURE,  Measurements,  Period



Persistence Mode, on/off

 WAVEFORM,  Horizontal Desc,  Infinite Persist or Variable Persist to turn on or Normal to turn off. Alternate (11403A, Option 1S only):  EXTENDED FEATURES,  Persist/Histograms,  as desired



Phase, timing measurement

 MEASURE,  Measurements,  Phase



Pop-Up Menu, remove

Touch anywhere in graticule outside pop-up menu. Alternate:  touch highlighted selector that displayed pop-up. Alternate:  press any menu button



Position, horizontal

Select waveform, ,  Bottom knob




Position, vertical (offset)

Select waveform, ,  Bottom knob




Pre-Trigger View

Select waveform, ,  Bottom knob






Probe ID Button, set function

 UTILITY,  Probes,  Wfm Select/New Wfm or Wfm Select/New Wfm & Autoset or Sequence Settings





Probes, calibrate (deskew, compensate)

 UTILITY,  Probes, connect probe or input to calibrator and  select channel

Propagation Delay, timing measurement

 MEASURE,  Measurements,  PropDelay,  PropDelay,  select delayed waveform from top of menu




Proximal, default measurement parameter

 MEASURE,  Stats Comp Test & Def,  Default Parameters then Proximal then  Bottom knob




Pulse, Autoset mode

 UTILITY,  Modes,  Horizontal




Pulse Width, timing measurement

 MEASURE,  Measurements,  Width




Recall, stored setting

 STORE/RECALL,  Recall Setting,  select setting





Recall, stored waveform

 STORE/RECALL,  Recall Waveform,  select waveform





Record Length, set by Initialize

 UTILITY,  Modes,  Init Sets Rec Len To





Record Length, main

 WAVEFORM,  Horizontal Desc,  Main Record Length,  Top knob





Record Length, window

 WAVEFORM,  Horizontal Desc,  Window Record Length,  Bottom knob

Reference Level, default measurement parameter

 MEASURE,  Stats Comp Test & Def,  Default Parameters then Reference Level then  either knob

Reference Value, for measurement compare

 MEASURE,  Stats Comp Test & Def,
 Compare Options *then* Measure Selected
Wfm Save as References *or adjust by touching*
a measurement reference selector in "Adjust
References" section, use  *either knob*



Remove Waveform

Select waveform to delete,  Remove/Clr Wfm
#,  Remove Wfm #



Remove Window

Select window waveform to delete,  Re-
move/Clr Wfm #,  Remove Wfm #




Remove, pop-up menu

Touch anywhere in graticule outside pop-up
menu. Alternate:  touch highlighted selector
that displayed pop-up. Alternate:  press any
menu button

Reset Oscilloscope

 UTILITY,  Initialize





Reset, all default measurement parameters

 MEASURE,  Stats Comp Test & Def,
 Default Parameters *then* Initialize Defaults




Reset, waveform measurement parameters to defaults

Select waveform,  MEASURE,  Stats
Comp Test & Def,  Default Parameters *then*
Copy Defaults to Sel Wfm

Right Limit, default measurement parameter

 MEASURE,  Stats Comp Test & Def,
 Default Parameters *then* Right Limit,  Bot-
tom knob

Rise Time, timing measurement

 MEASURE,  Measurements,  Rise

RMS, amplitude measurement

 MEASURE,  Measurements,  RMS

RS-232-C Parameters

  UTILITY,  RS232C,  as needed

Runs After Delay

TRIGGER, Window Holdoff Md, No Holdoff Triggered from Main

Sample Interval, display

WAVEFORM, Horizontal Desc, read out at top of pop-up menu

Save Current Measurement Values as Compare Reference

MEASURE, Stats Comp Test & Def, Compare Options *then* Measure Selected Wfm Save as References

Save Setting

STORE/RECALL, Store Setting, select associated menu at bottom of pop-up menu, *then* Set Next FPS and either knob, *then* Store Next FPS

Save Waveform

STORE/RECALL, Store Waveform, select waveform or Store All

Scaling, waveform

UTILITY, Modes, Waveform Scaling. See also *Fast and High Prec*

Select Waveform

Touch waveform on display. Alternate: WAVEFORM, Page to All Wfms Status *then* select waveform in major menu area

Self Test

UTILITY, Self Test, Self Test




Self Test, extended diagnostics

UTILITY, Extended Diagnostic, Extended Diagnostic *then* run desired tests *then* Exit





Setting, recall front panel setup

STORE/RECALL, Recall Setting, select setting




Setting, sequence to next

 STORE/RECALL,  Sequence Settings,  Sequencing (set to On) then Next Setting.
Alternate: press probe button if ID function is set to sequence setting (see Probe ID Button)





Setting, store front panel setup

 STORE/RECALL,  Store Setting,  select menu to be stored with setting at bottom of pop-up menu, then Set Next FPS and  either knob, then Store Next FPS



Signal Source

 and  as needed (all waveforms). *Alternate:  Input channel (single-channel waveforms only)*



Signal/Noise Ratio, default measurement parameter

 MEASURE,  Stats Comp Test & Def,  Default Parameters then S/N Ratio,  Bottom knob




Size, adjust horizontal

Select waveform, ,  Top knob




Size, adjust vertical

Select waveform, ,  Top knob

Skew, timing measurement

 MEASURE,  Measurements,  Skew

Slope, default measurement parameter

 MEASURE,  Stats Comp Test & Def,  Default Parameters then Slope




Slope, trigger

 TRIGGER,  Trigger Select (Main or Window) then Slope




Sound, on/off

 UTILITY,  Modes,  Audio Feedback




Source, signal

 and  as needed (all waveforms). *Alternate:  Input channel (single-channel waveforms only)*




Source, trigger



 TRIGGER,  Trigger Select (Main or Window) then Source Desc,  type description then Enter Desc

Split Dot Cursors




Select first waveform,  Cursors,  Cursor Type,  Split Dots then touch selector for second waveform

Statistics, on/off





 MEASURE,  Stats Comp Test & Def,  Statistics Options, Statistics

Note: Main→Win Trig Time measurement has its own statistics control:  Main→Win Trig Time,  "Statistics" section



Statistics, restart logging

 MEASURE,  Stats Comp Test & Def,  Reset

Statistics, set N

 MEASURE,  Stats Comp Test & Def,  Statistics Options, Statistics N,  either knob






Status, waveform

 WAVEFORM,  Vertical Desc selector shows some status or Page to All Wfms Status




Stop Bits, RS-232-C

  UTILITY,  RS232C,  Stop Bits




Store Setting

 STORE/RECALL,  Store Setting,  select associated menu at bottom of pop-up menu, then Set Next FPS and  either knob, then  Store Next FPS




Store Waveform

 STORE/RECALL,  Store Waveform,  select waveform or Store All

Stored Waveform, recall

 STORE/RECALL,  Recall Waveform,  select waveform





Stored Waveform, time/date label

 UTILITY,  Modes,  Stored Wfm Time/Date (*shows time/date stamp on menu selectors for stored waveforms*)




Terminator, GPIB

  UTILITY,  GPIB,  Terminator



Time, delay window trigger by
*see Holdoff***Time, set**

 UTILITY,  Time & Date,  select item to change,  adjust using knobs



Time A→B, timing measurement

 MEASURE,  Measurements,  Main→Win Trig Time



Time/Div

Select waveform, ,  Top knob




Time Base Position

Select waveform, ,  Bottom knob





Time Base Size

Select waveform, ,  Top knob


Time Mode, default measurement parameter

 MEASURE,  Stats Comp Test & Def,  Default Parameters then Time Mode




Topline, default measurement parameter

 MEASURE,  Stats Comp Test & Def,  Default Parameters then Topline then  Top knob

Touch Panel, on/off

 TOUCH PANEL




Tracking, default measurement parameter

 MEASURE,  Stats Comp Test & Def,  Default Parameters then Tracking

Trig After Delay

 TRIGGER,  Window Holdoff Md,  Holdoff by Time Triggered from Window

Trigger Time Delay, timing measurement

 MEASURE,  Measurements,
 Main→Win Trig Time

Trigger, AC coupling

 TRIGGER,  Trigger Select (Main or Win-
dow) then Coupling,  AC

Trigger, auto level mode

 TRIGGER,  Trigger Select (Main or Win-
dow) then Mode,  Auto Level




Trigger, auto mode

 TRIGGER,  Trigger Select (Main or Win-
dow) then Mode,  Auto




Trigger, DC coupling

 TRIGGER,  Trigger Select (Main or Win-
dow) then Coupling,  DC




Trigger, high pass filter coupling

 TRIGGER,  Trigger Select (Main or Win-
dow) then Coupling,  select







Trigger holdoff window by events, establishing

 TRIGGER,  Window Holdoff Md,
 Holdoff by Events Triggered from Window




Trigger holdoff window by time, establishing

 TRIGGER,  Window Holdoff Md,
 Holdoff by Time Triggered from Window







Trigger holdoff window by time or events, adjusting

 or  ,  Bottom knob. Alternate:  TRIGGER,
 Time Holdoff or Events Holdoff,  Bottom
knob




Trigger, holdoff window, removing

 TRIGGER,  Window Holdoff Md,  No
Holdoff Triggered from Main

Trigger, level

 or  ,  Top knob. Alternate:  TRIGGER,
 Level,  Top knob

Trigger, line

 TRIGGER,  Trigger Select (Main or Win-
dow) then Coupling,  Line

Trigger, low pass filter coupling

☐ TRIGGER, ☐ Trigger Select (Main or Window) then Coupling, ☐ select coupling

Trigger, noise filter coupling

☐ TRIGGER, ☐ Trigger Select (Main or Window) then Coupling ☐, select coupling

Trigger, normal mode

☐ TRIGGER, ☐ Trigger Select (Main or Window) then Mode, ☐ Normal

Trigger, single shot

☐ WAVEFORM, ☐ Acquire Desc, ☐ Single Trigger (press ☐ DIGITIZER for each successive acquisition)

Trigger, slope

☐ TRIGGER, ☐ Trigger Select (Main or Window) then Slope

Trigger, source

☐ TRIGGER, ☐ Trigger Select (Main or Window) then Source Desc, ☐ type description then Enter Desc

Trigger window holdoff by events, establishing

☐ TRIGGER, ☐ Window Holdoff Md, ☐ Holdoff by Events Triggered from Window

Trigger window holdoff by time, establishing

☐ TRIGGER, ☐ Window Holdoff Md, ☐ Holdoff by Time Triggered from Window

Trigger window holdoff by time or events, adjusting

☐ ☐ Bottom knob. Alternate: ☐ TRIGGER, ☐ Time Holdoff or Events Holdoff, ☐ Bottom knob

Trigger, window holdoff, removing

☐ TRIGGER, ☐ Window Holdoff Md, ☐ No Holdoff Triggered from Main

TTL, Autoset mode

☐ UTILITY, ☐ Modes, ☐ Vertical

Undershoot, amplitude measurement

☐ MEASURE, ☐ Measurements, ☐ Undershoot

Variable Persistence, on/off

☐ WAVEFORM, ☐ Horizontal Desc, Variable Persist. *Alternate (11403A, Option 1S only):*
☐ EXTENDED FEATURES, ☐ Persist/Histograms, ☐ Variable Persist

Vector Mode, display mode on/off

☐ UTILITY, ☐ Modes, ☐ Vectored Waveforms

Verbose, RS-232-C

☐ ☐ UTILITY, ☐ RS232C, ☐ Verbose

Vertical Bar Cursors

Select waveform, ☐ Cursors, ☐ Cursor Type, ☐ Vertical Bars

Vertical Offset

Select waveform, ☐ ☐ Bottom knob

Vertical Size

Select waveform, ☐ ☐ Top knob

Volts/Div

Select waveform, ☐ ☐ Top knob

Waveform, calculations and functions

☐ WAVEFORM, ☐ Vertical Desc, ☐ as needed then Enter Desc

Waveform, clear data points

☐ STORE/RECALL, ☐ Clear Waveform, ☐ as needed. *Alternate: Select waveform, Remove/Clr Wfm #, Clear Wfm #*




Waveform, create new

☐ DefWfm and ☐ as needed (all waveforms). *Alternate: ☐ Input channel (single-channel waveforms only)*



Waveform, move to other graticule

~ Select waveform to move, ☐ WAVEFORM, ☐ Upper Graticule or Lower Graticule, ☐ Move Waveform to Other Graticule

Waveform, recall stored

 STORE/RECALL,  Recall Waveform,
 select waveform



Waveform, remove

Select waveform to delete,  Remove/Clr Wfm
#,  Remove Wfm #



Waveform, scaling

 UTILITY,  Modes,  Waveform Scaling.
See also Fast and High Prec




Waveform, select

Touch waveform on display. Alternate:  WA-
VEFORM,  Page to All Wfms Status then
select waveform in major menu area




Waveform, status

 WAVEFORM,  Vertical Desc selector
shows some status or Page to All Wfms Status




Waveform, store

 STORE/RECALL,  Store Waveform,
 select waveform or Store All




Waveform, vertical description

 WAVEFORM,  Vertical Desc (shows some
status),  extend or modify as needed then
Enter Desc




Waveform, XY from two live waveforms

Create and select Y waveform,  WAVEFORM,
 Horizontal Desc,  select X waveform




Waveform, XY from two stored waveforms

Create and select stored Y waveform,  WA-
VEFORM,  Horizontal Desc,  select X
stored waveform




Waveform Color, change assignment (11403A only)

Select waveform,  UTILITY,  Color,  Se-
lected Wfm Color repeatedly until set to desired
color. Window waveforms cannot be reas-
signed. Note: see Color for more color control





Waveform Label, define

 UTILITY,  Label,  select entity to display (first Displayed Waveforms, Stored Waveforms, or Stored Settings, then the entity from the list below), then type label (from key list of Upper Case, Lower Case, or Numbers). Back Space to correct errors. Exit




Waveform Label, change or delete

 UTILITY,  Label,  select entity to change or delete (first Displayed Waveforms, Stored Waveforms, or Stored Settings, then the entity from the list below), then type label (from key list of Upper Case, Lower Case, or Numbers). Back Space to correct errors or delete text. Exit




Waveform Label, move

Select waveform,  UTILITY,  Label  Displayed Waveforms then Position, then Exit,  to move



Waveform Label, on/off

 UTILITY,  Label  Displayed Waveforms then Display



Waveform Label, stored waveform time/date

 UTILITY,  Modes,  Stored Wfm Time/Date (shows time/date stamp on menu selectors for stored waveforms)

Window Position

Select waveform,  ,  Bottom knob





Window Size

Select waveform,  ,  Top knob

Window, create new waveform




Select source waveform,  Window1 or  Window2




Window, record length






 WAVEFORM,  Horizontal Desc,  Window Record Length,  Bottom knob




Window, remove




Select window waveform to delete,  Remove/Clr Wfm #,  Remove Wfm #




Window, trigger holdoff by events, establishing
 TRIGGER,  Window Holdoff Md,
 Holdoff by Events Triggered from Window

Window, trigger holdoff by time, establishing
 TRIGGER,  Window Holdoff Md,
 Holdoff by Time Triggered from Window

Window, trigger holdoff by time or events, adjusting
,  *Bottom knob*. Alternate:  TRIGGER,
 Time Holdoff or Events Holdoff,  *Bottom knob*

Window, trigger holdoff, removing
 TRIGGER,  Window Holdoff Md,  No
 Holdoff Triggered from Main

XY Waveform, from two live waveforms
 Create and select Y waveform,  WAVEFORM,
 Horizontal Desc,  select X waveform

XY Waveform, from two stored waveforms
 Create and select stored Y waveform,  WA-
 VEFORM,  Horizontal Desc,  select X
 stored waveform

Tektronix 11402A/11403A

Alphabetic Command Summary

< >	::= Defined item
{ }	::= One item from group required
[]	::= Optional item(s)
()	::= Response to a query
	::= Exclusive or
FPS	::= Front Panel Setting
<NR1>	::= Signed integer
<NR2>	::= Floating point, no exponent
<NR3>	::= Floating point with exponent
<NRx>	::= {<NR1> <NR2> <NR3> }
<ui>	::= Unsigned integer
<curve data>	::= Tek Codes&Formats binary block data (<bblock>) or ASCII data points (<NR1> [{, <NR1> }...])
<qstring>	::= Quoted string
?	::= Query-only header or link

HEAdEr	Header, link, or argument; minimum spelling in CAPs
RESponse	Query response; minimum spelling in CAPs

Commands are set/query unless otherwise noted. Query-only headers are followed by a ?. Query-only links are indicated with a leading ?; the argument(s) in parentheses after the colon show the response form. (Note: Do not enter the colon when querying a link.)

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A-B

ABBwfmpre {ON|OFF}
 ABStouch {CLEAr|<NRx>, <NRx> }
 ADJtrace <ui> <link>: <arg>
 HMAg: <NRx>
 HPOsition: <NRx>
 HVPosition: <NRx>
 HVSize: <NRx>
 PANzoom: {ON|OFF}
 TRSep: <NRx>
 VPOsition: <NRx>
 VSize: <NRx>
 ALTinkjet <link>: <arg>
 DIRection: {HORiz|VERt}
 FORMat: {DRAft|HIRes|REDuced}
 PORT: {CENTRONics|GPIb|RS232}
 AUTOSet [<link>:] <arg>
 HORiz: {EDGE|OFF|PERiod|PULse}
 START
 UNDO
 VERT: {ECL|PP|TTL|OFF}
 AVG {ON|OFF}
 BASeline <NRx>
 BELL
 BITMap <link>: <arg>
 DATACompress: {ON|OFF}

(Set-only)
(Set-only)

DATAFormat: {BINary|BINHex}
 DIREction: {HORiz|VERT}
 FORMat: {DIThered|DRAft|HIRes|REDuced|SCREen}
 PORT: {CENTRONics|GPIb|RS232}
 BYT.or {LSB|MSB}

C

CALProbe <link>: <arg>
 FULL: <slot> <ui>
 SHORT: <slot> <ui>
 CALStatus?
 CCAIconstants <ui>: <NRx>
 CH <slot> <ui> <link>: <arg>
 AMPoffset: <NRx>
 BW: <NRx>
 BWHi: <NRx>
 BWLo: <NRx>
 COUpling: {AC|DC|VC|OFF}
 IMPedance: <NRx>
 MNSCoupling: {AC|DC|VC|OFF}
 MNSOffset: <NRx>
 ? MNSProbe (<qstring>)
 OFFSet: <NRx>
 PLSCoupling: {AC|DC|VC|OFF}
 PLSOffset: <NRx>
 ? PLSProbe (<qstring>)
 ? PROBE (<qstring>)
 PROTect: {ON|OFF}
 SENSitivity: <NRx>
 ? UNITS (<qstring>)
 VCOffset: <NRx>
 CLEAR {ALL| <qstring>|TRACE <ui>} (Set-only)
 COLOR <ui> <link>: <arg>
 DEFAULT
 HUE: <NRX>
 LIGHTness: <NRx>
 SATuration: <NRx>
 COLOR DEFAULT
 COMPare {ON|OFF}
 CONDacq <link>: <arg>
 FIL: <NRx>
 ? REMAINing (<NR1>)
 TYPE: {AVG|BOTH|CONTInuous|ENV|FIL|GRADED|
 HIST.pt|MASK [<ui>]|SINGLE|WAVfrm}
 CONFig?
 COPY [<link>:] <arg>
 ABORT (Set-only)
 FORMat: {DIThered|DRAft|HIRes|REDuced|SCREen}
 PORT: {CENTRONics|GPIb|RS232}
 PRINTER: {ALTinkjet|BITMap|HPG|PIN8|PIN24|
 TEK4697|TEK4696|TEK4692}
 START (Set-only)
 ? STATUS ({IDLE|SPOoling|PRINTing|ABORTing})
 CPLugin <qstring>
 CURSOR <link>: <arg>
 READout: {ON|OFF}
 REFERENCE: TRACE <ui>
 TYPE: {HBArS|PAIred|SPLit|VBArS}
 ? XUNIT ({AMPs|DIVS|DEGrees|DBM|HERtz|
 OHMs|SEConds|VOLts|WATts})
 ? YUNIT ({AMPs|DIVS|DEGrees|DBM|HERtz|
 OHMs|VOLts|WATts})
 CURVe <curve data>

DAInt { SINGLE|WHOLE}
 DATE <qstring> = "<dd>-<mon>-<yy>"
 DEBug <link>:<arg>
 GPIb: {ON|OFF}
 RS232: {ON|OFF}
 DEF <qstring>,<qstring> (Set-only)
 DELAY [<ui>]?
 DElete [<link>:]<arg> (Set-only)
 {FPS<ui>|<qstring>|STO<ui>|MENU<ld>}
 ALL: {FPS|MENU|STO}
 DIAg?
 DIGitizer {RUN|STOP}
 DISPerion {PP|RMSDev}
 DISPlay <link>:<arg>
 C.WINBottom: <NRx>
 C.WINLeft: <NRx>
 C.WINRight: <NRx>
 C.WINTop: <NRx>
 D.WINBottom: <NRx>
 D.WINLeft: <NRx>
 D.WINRight: <NRx>
 D.WINTop: <NRx>
 ? DATA (<curve data>)
 GRADFirst: {ON|OFF}
 ? GRADScale (<ui>)
 GRAticule: {DUAL|SINGLE}
 INTENsity: <NRx>
 MODE: {DOTs|VECTors}
 ? NR.PT (<ui>)
 PERSistence: <NRx>
 REFREsh: <NRx>
 STATistics: {HISTogram|MASK}
 TYPE: {GRADED|INFinite|NORMAL|VARIABLE}
 ? XSize (<ui>)
 ? YSize (<ui>)
 DISTal <NRx>
 DLYtrace TRACE<ui>
 DOT1Abs; DOT2Abs <link>:<arg>
 PCTg: <NRx>
 XCOord: <NRx>
 XDiv: <NRx>
 ? XQUAL ({EQ|LT|GT|UN})
 ? YCOord (<NR3>)
 ? YDiv (<NR3>)
 ? YQUAL ({EQ|LT|GT|UN})
 DOT1Rel; DOT2Rel <link>:<arg> (Set-only)
 PCTg: <NRx>
 XCOord: <NRx>
 XDiv: <NRx>
 DSYmenu [<link>:]<arg>
 {ALL Wavfrm|CURSor|DISPlay|EXTFeatures|
 MEAS|STORE Recall|TRigger|UTILITY1|
 UTILITY2|WAVfrm|<link>:<arg>}
 EXTMenu: {MENU<ld>|NONE}

ENCdg <link>:<arg>
 DISPlay: {ASCii|BINary}
 HISTogram: {ASCii|BINary}
 SET: {ASCii|BINary}
 WAVfrm: {ASCii|BINary}
 ENV {ON|OFF}

EVENT?

FEOi

(Set-only)

FFT <link>: <arg>

FORMAT: {DBM|LINEar}

WINDOW: {BLACKman|BLHarris|HAMming|
HANning|RECTangular|TRIangular}

FPANEL {ON|OFF}

FPSList?

FPSNum?

FPUdate {ALWays|EMPTy|NEVer}

H - I

H1Bar, H2Bar <link>: <arg>

YCOord: <NRx>

YDiv: <NRx>

HISTogram {CLEar|<link>: <arg>}

C.WINBottom: <NRx>

C.WINLeft: <NRx>

C.WINRight: <NRx>

C.WINTop: <NRx>

D.WINBottom: <NRx>

D.WINLeft: <NRx>

D.WINRight: <NRx>

D.WINTop: <NRx>

? DATA (<curve data>)

HISTScaling: {LINEar|LOG10}

? NR.pt (<ui>)

TYPE: {HORiz|NONE|VERT}

HNumber <NR1>

HPGI <link>: <arg>

COLOR<ui>: <NRx>

COLOR: DEFaulT

FORMAT: {DRAft|HIRes|SCREen}

PORT: {CENTRonics|GPib|RS232}

ID?

IDProbe?

INIT

(Set-only)

INPut {STO<ui>|<qstring>}

J - L

JITter [<ui>]?

JITT.histpt?

JITTELevel?

JITTLocation {CROSS|MESial}

KBAssign {<link>: <arg>}

GRANularity: {COARse|FINE|MEDIUM}

LOWER: <NRx>

UPPER: <NRx>

LABAbs <link>: <arg>

PCTg: <NRx>

XCOord: <NRx>

YDiv: <NRx>

Label <link>: <arg>

DELEte: {ALL|FPS<ui>]|<qstring>|STO<ui>]|
TRAcE<ui>}] (Set-only)

DISPlay: {ON|OFF}

FPS<ui>: <qstring>

STO<ui>: <qstring>

TRAcE<ui>: <qstring>

LABRel <link>: <arg>

(Set-only)

PCTg: <NRx>

(Set-only)

XCOord: <NRx>

(Set-only)

YDiv: <NRx>

(Set-only)

LCAIconstants <ui>:<NRx>

LMZone <NRx>

LONGform {ON|OFF}

LPLugin <qstring>

M

MAINPos <NRx>

MASK<ui> {DELEte|<link>:<arg>}

C.Points:<xcoord>,<ycoord> [, <xcoord>,<ycoord>...]

D.Points:<xcoord>,<ycoord> [, <xcoord>,<ycoord>...]

? NCOunt (<ui>)

? NR.pt (<ui>)

MASKStat {CLEAr|<link>:<arg>}

COUNT: {OFF|ON}

? NWfm (<ui>)

? TOTAl (<ui>)

MCAIconstants <ui>:<NRx>

MEAS?

<meas>?

<meas> ::= ({AMPLitude|CROSS|DELAy|DUTy|EXTinction|FALtime|FREq|JITter|GAIIn|MAX|MEAN|MID|MIN|NOIse|OVERshoot|PDElay|PERIOD|PHASE|PP|RISetime|RMS|SFrequency|SKEW|SMagnitude|THD|TTRig|UNDershoot|WIDTH|YTEnergy|YTMns_area|YTPIs_area})

MEDge

MENTouch?

MENU<Id> <link>:<arg>

ATTach: {NONE|<ui>}

LABel: <qstring>

MODE: {HIGHlight|OFF|SElect|UNSElect}

POPPos: {DEFAult|<ui>}

MESial <NRx>

MHLimit <meas> [<ui>]:<NRx>

MLevel {ABSOLute|BASEDelta|RELative|TOPDelta}

MLLimit <meas> [<ui>]:<NRx>

MSCount <NRx>

MSList {EMPTy|<meas> [<ui>] [, <meas> [<ui>]...]}

MSLOpe {PLUS|MINUs}

MS<meas> [<ui>]?

MSNum?

MStat?

MSYs {ON|OFF}

MStat?

MTime {ABSOLute|RELative}

MTRack {BASeline|BOTH|ON|OFF|TOPline}

N - O

NAVg <NRx>

NEDge

NENV <NRx>

NGRAded <NRx>

NHIST.pt <NRx>

NMAsk! <NRx>

NOIS.histpt?

NOISLocation {BASeline|TOPline}

NVRam?

NWAVfrm <NRx>

OUTput {STO<ui>|TRAcce<ui>|<qstring>}

PATH {ON|OFF}

PfResult?

PfTest {OFF|ON}

PIN8; PIN24 <link>: <arg>

FORMat: {DRAft|HIRes|REDUced}

PORT: {CENTRONics|GPIb|RS232}

PINdex <ui>

PIVersion?

POWERon?

PROBe {NT|NTAuto|SETSeq}

PROXimal <NRx>

PZMode <link>: <arg>

MULTitrace: {ON|OFF}

PIVOT: {CENTer|LEFT|RIGHT|TRIGGER}

RCAIconstants <ui>: <NRx>

RECall {FPNext|FPS<ui>|<qstring>} (Set-only)

REFLevel <NRx>

REFset <link>: <arg>

CURRENT: <meas>[<ui>] (Set-only)

<meas>[<ui>]: <NRx>

REFTrace TRAcce<ui>

REMOve {ALL|<qstring>|TRAcce<ui>} (Set-only)

RMZone <NRx>

RPLugin <qstring>

RQS {ON|OFF}

RS232 <link>: <arg>

BAUD: <NRx>

DELAY: <NRx>

ECHO: {ON|OFF}

EOL: {CR|CRLF|LF|LFCr}

FLAGging: {SOFT|HARD|OFF}

PARity: {ODD|EVEN|NONE}

STOPBits: <NRx>

VERBose: {ON|OFF}

SElect {TRAcce<ui>|<qstring>}

SELFcal {FORce|<link>: <arg>}

MODE: {AUTO|MANual}

SET

SET?

SETSeq {ON|OFF}

SHILO

SMODE {HARmonic|PEAK}

SNRatio <NRx>

SPEaker {ON|OFF}

SRQMask <link>: <arg>

ABStouch: {ON|OFF}

CALDue: {ON|OFF}

CMDerr: {ON|OFF}

EXErr: {ON|OFF}

EXWarn:{ON|OFF}
 IDProbe:{ON|OFF}
 INErr:{ON|OFF}
 INWarn:{ON|OFF}
 OPCmpl:{ON|OFF}
 MENTouch:{OFF|ON}
 USEr:{ON|OFF}
 STATHist? [{HIST.pt|MEAN|NWFm|PP|RMSDev|
 SIGMA1|SIGMA2|SIGMA3}]
 STATistics {ON|OFF}
 STByte?
 STOList?
 STONum?
 STORE {FPS<ui>|<link>:<arg>} (Set-only)
 TRACE<ui>:{STO<ui>|<qstring>}
 <qstring>:STO<ui>
 SUB<id><ui><link>:<arg>
 LABEL:<qstring>
 MODE:{HIGHLIGHT|OFF|ON|SELECT|UNSELECT}
 TYPE:{BOX|RULE|TEXT}
 X:<ui>
 XLEN:<ui>
 Y:<ui>
 YLEN:<ui>
 SUBLEN<id>?

T

TBMain; TBWin <link>:<arg>
 LENGTH:<NRx>
 TIME:<NRx>
 ?XINcr (<NR3>)
 TEK4692 <link>:<arg>
 COLOR{ :DEFAULT|<ui>:<NRx>}
 DIRECTION:{HORIZ|VERT}
 FORMAT:{DITHERED|DRAFT|HIRES|SCREEN}
 PORT:{CENTRONICS|GPIB|RS232}
 TEK4696; TEK4697 <link>:<arg>
 COLOR{ :DEFAULT|<ui>:<NRx>}
 DIRECTION:{HORIZ|VERT}
 FORMAT:{DITHERED|DRAFT|HIRES|REDUCED|SCREEN}
 PORT:{CENTRONICS|GPIB|RS232}
 TEST [XTNd] (Set-only)
 TEXT {CLEAR|<link>:<arg>} (Set-only)
 STRING:<qstring>
 X:<ui>
 Y:<ui>
 THD[<ui>]?
 TIME <qstring> = "<hh>:<mm>:<ss>"
 TOPLINE <NRx>
 TR?
 TRACE<ui><link>:<arg>
 ACCUMULATE:{ON|OFF}
 ?ACSstate ({ENHANCED|NENHANCED})
 DESCRIPTION:<qstring>
 GRLOCATION:{UPPER|LOWER}
 GRType:{LINEAR}
 ?WFMCalc ({FAST|HIPREC})
 ?XUNIT ({AMPS|DBM|DEGREES|DIVS|HERTZ|OHMS|
 SECONDS|VOLTS|WATTS})
 ?YUNIT ({AMPS|DBM|DEGREES|DIVS|HERTZ|OHMS|
 SECONDS|VOLTS|WATTS})
 TRACE[<ui>]?
 TRANUM?
 TRMain <link>:<arg>

ALevel: <NRx>
 ANLevel: <NRx>, {VOLts|DIVS}
 COUpling: {AC|ACLf|ACHf|ACNoise|DC|DCHf|
 DCNoise|HlBW}
 MODE: {AUTO|AUTOLevel|NORmal}
 SLOpe: {PLUs|MINUs}
 SOUrcE: <qstring>
 ? STaTus ({TRG|NOTrg})
 TIHoldoff: <NRx>

TRWin <link>: <arg>
 ALevel: <NRx>
 COUpling: {AC|ACLf|ACHf|ACNoise|DC|DCHf|
 DCNoise|HlBW}
 EVHoldoff: <NRx>
 MODE: {AUTOLevel|NORmal}
 NLevel: <NRx>, {VOLts|DIVS}
 SLOpe: {PLUs|MINUs}
 SOUrcE: <qstring>
 ? STaTus ({TRG|NOTrg})
 TIHoldoff: <NRx>

TTAverage <NRx>

TTRlg[<ui>]?

U-V

UID <link>: <arg>
 CENter: <qstring>
 LEFt: <qstring>
 MAIn: <qstring>
 RIGHt: <qstring>

UNDEF { <qstring> | ALL }

(Set-only)

UPTime?

V1Bar, V2Bar <link>: <arg>

XCOord: <NRx>

XDiv: <NRx>

W

WAVfrm?

WFMpre <link>: <arg>

ACState: {ENHanced|NENhanced}

? BIT/nr (16)

? BN.fmt (Rl)

? BYT/nr (2)

? BYT.or ({LSB|MSB})

? CRVchk ({CHKsm0|NONE|NUL})

DATE: <qstring>

? ENCdg ({ASCIi|BINary})

LABel: <qstring>

NR.pt {512|1024|2048|4096|5120|8192|10240}

? PT.fmt ({ENV|Y|XY})

TIME: <qstring>

? WFId ({STO <ui> | TRAcE <ui> })

XINcr: <NRx>

? XMUlt (<NR3>)

? XUNit ({AMPS|DBM|DEGrees|DIVS|HERtz|
 OHMs|SEConds|VOLts|WATts})

XZErO: <NRx>

YMUlt <NRx>

YUNit {AMPS|DBM|DEGrees|DIVS|HERtz|
 OHMs|SEConds|VOLts|WATts}

YZErO: <NRx>

WFMScaling {FORCe|OPTional}

WIN1Pos <NRx>

WIN2Pos <NRx>

WTMode {MAIn|EVHoldoff|TIHoldoff}

Tektronix 11402A/11403A Functional Command Summary

< >	::= Defined item
{ }	::= One item from group required
[]	::= Optional item(s)
()	::= Response to a query
	::= Exclusive or
FPS	::= Front Panel Setting
<NR1>	::= Signed integer
<NR2>	::= Floating point, no exponent
<NR3>	::= Floating point with exponent
<NRx>	::= { <NR1> <NR2> <NR3> }
<ui>	::= Unsigned integer
<curve data>	::= Tek Codes&Formats binary block data (<bblock>) or ASCII data points (<NR1>[{, <NR1> }...])
<qstring>	::= Quoted string
?	::= Query-only header or link

HEAders	Header, link, or argument; minimum spelling in CAPs; links followed by :
RESponses	Query response; minimum spelling in CAPs

Commands are set/query unless otherwise noted. Query-only headers are followed by a ?. Query-only links are indicated with a leading ?; the argument(s) in parentheses after the colon show the response form. (Note: Do not enter the colon when querying a link.)

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Acquisition Commands

AUTOSet [<link>:]<arg>
HORiz: {EDGE|OFF|PERiod|PULse}
START
UNDO (Set-only)
VERT: {ECL|PP|TTL|OFF} (Set-only)
AVG {ON|OFF}
CONDacq <link>:<arg>
FIL: <NRx>
? REMAining (<NR1>)
TYPE: {AVG|BOTH|CONTInuous|ENV|FIL|GRADed|HIST.pt|MASK[<ui>]SINGLE}
DIGitizer {RUN|STOP}
ENV {ON|OFF}
FFT <link>:<arg>
FORMat: {DBM|LINEar}
WINDow: {BLAckman|BLHarris|HAMming|HANning|RECTangular|TRIAngular}
NAVg <NRx>
NENV <NRx>
NGRADed <NRx>
NHIST.pt <NRx>
NMAsk <NRx>
NWAVfrm <NRx>

Calibration Commands

CALProbe <link>:<arg>
FUL: <slot> <ui>
SHOrt: <slot> <ui>
CALStatus?
CCAlconstants <ui>:<NRx>
LCAIconstants <ui>:<NRx>
MCAIconstants <ui>:<NRx>
RCAIconstants <ui>:<NRx>
SELFOal {FORce|<link>:<arg>}
MODE: {AUTO|MANual}

Channel/Vertical Commands

CH <slot> <ui> <link>:<arg>
AMPoffset: <NRx>
BW: <NRx>
BWHI: <NRx>
BWLO: <NRx>
COUpling: {AC|DC|OFF|VC}
IMPedance: <NRx>
MNSCoupling: {AC|DC|VC|OFF}
MNSOffset: <NRx>
? MNSProbe (<qstring>)
OFFSet: <NRx>
PLSCoupling: {AC|DC|VC|OFF}
PLSOffset: <NRx>
? PLSProbe (<qstring>)
? PROBE (<qstring>)
PROTect: {ON|OFF}
SENSitivity: <NRx>
? UNIts (<qstring>)
VCOffset: <NRx>
CPLugin <qstring>
LPLugin <qstring>
RPLugin <qstring>

Cursor Commands

CURSOr <link>:<arg>
READout: {ON|OFF}
REFerence: TRAcE<ui>
TYPE: {HBArS|PAIred|SPLit|VBArS}
? XUNit ({AMPs|DIVS|DEGrees|DBM|HERtz|
OHMs|SECOnds|VOLts|WATts})
? YUNit ({AMPs|DIVS|DEGrees|DBM|HERtz|
OHMs|SECOnds|VOLts|WATts})
DOT1Abs; DOT2Abs <link>:<arg>
PCTg: <NRx>
XCOord: <NRx>
XDiv: <NRx>
? XQual ({EQ|LT|GT|UN})
? YCOord (<NR3>)
? YDiv (<NR3>)
? YQual ({EQ|LT|GT|UN})
DOT1Rel; DOT2Rel <link>:<arg>
PCTg: <NRx>
XCOord: <NRx>
XDiv: <NRx>
H1Bar; H2Bar <link>:<arg>
YCOord: <NRx>
YDiv: <NRx>
V1Bar; V2Bar <link>:<arg>
XCOord: <NRx>
XDiv: <NRx>

(Set-only)

Data Transfer Commands

ABBwfmpre {ON|OFF}
BYT.or {LSB|MSB}
CURVe <curve data>
ENCdg <link>:<arg>
 DISPlay: {ASCIi|BINary}
 HISTogram: {ASCIi|BINary}
 SET: {ASCIi|BINary}
 WAVfrm: {ASCIi|BINary}
HISTogram {CLEAr|<link>:<arg>}
 C.WINBottom: <NRx>
 C.WINLeft: <NRx>
 C.WINRight: <NRx>
 C.WINTop: <NRx>
 D.WINBottom: <NRx>
 D.WINLeft: <NRx>
 D.WINRight: <NRx>
 D.WINTop: <NRx>
 ? DATA (<curve data>)
 HISTScaling: {LINEar|LOG10}
 ? NR.pt (<ui>)
 TYPe: {HORiz|NONE|VERT}
INPut {STO<ui>|<qstring>}
OUTPut {STO<ui>|TRAcE<ui>|<qstring>}
SET <bblock>
SET?
WAVfrm?
WFMpre <link>:<arg>
 ACState: {ENHanced|NENhanced}
 ? BIT/nr (16)
 ? BN.fmt (RI)
 ? BYT/nr (2)
 ? BYT.or ({LSB|MSB})
 ? CRVchk ({CHKsm0|NONE|NULL})
 DATE: <qstring>
 ? ENCdg ({ASCIi|BINary})
 Label: <qstring>
 NR.pt: {512|1024|2048|4096|5120|8192|10240}
 ? PT.fmt ({ENV|Y|XY})
 TIME: <qstring>
 ? WFId ({STO<ui>|TRAcE<ui>})
 XINcr: <NRx>
 ? XMUlt (<NR3>)
 ? XUNit ({AMPS|DBM|DEGrees|DIVS|HERtz|
 OHMs|SECOnds|VOLts|WATts})
 XZErO: <NRx>
 YMUlt: <NRx>
 YUNit: {AMPS|DBM|DEGrees|DIVS|HERtz|
 OHMs|SECOnds|VOLts|WATts}
 YZErO: <NRx>

Diagnostic Commands

DIAG?
TEST [XTNd] (Set-only)

Display and Color Commands

BELL
COLor<ui> <link>:<arg>
 DEFAUlt
 HUE: <NRx>
 LIghTness: <NRx>
 SATuration: <NRx>
COLor DEFAUlt

DISPlay <link>:<arg>
 C.WINBottom: <NRx>
 C.WINLeft: <NRx>
 C.WINRight: <NRx>
 C.WINTop: <NRx>
 D.WINBottom: <NRx>
 D.WINLeft: <NRx>
 D.WINRight: <NRx>
 D.WINTop: <NRx>
 ? DATA (<curve data>)
 GRADFirst: {ON|OFF}
 ? GRADScale (<ui>)
 GRaticule: {DUAL|SINGLE}
 INTENsity: <NRx>
 MODe: {DOTs|VECTors}
 ? NR.PT (<ui>)
 PERSistence: <NRx>
 REFREsh: <NRx>
 STATistics: {HISTogram|MASK}
 TYPE: {GRADEd|INFinite|NORMal|VARIABLE}
 ? XSize (<ui>)
 ? YSize (<ui>)
HISTogram {CLEar|<link>:<arg>}
 C.WINBottom: <NRx>
 C.WINLeft: <NRx>
 C.WINRight: <NRx>
 C.WINTop: <NRx>
 D.WINBottom: <NRx>
 D.WINLeft: <NRx>
 D.WINRight: <NRx>
 D.WINTop: <NRx>
 ? DATA (<curve data>)
 HISTScaling: {LINEar|LOG10}
 ? NR.pt (<ui>)
 TYPE: {HORiz|NONE|VERT}
KBAssign {<link>:<arg>}
 GRANularity: {COARse|FINE|MEDIUM}
 LOWER: <NRx>
 UPPER: <NRx>
MENTouch?
MENU <id> <link>:<arg>
 ATTach: {NONE|<ui>}
 LABEL: <qstring>
 MODe: {HIGHlight|OFF|SElect|UNSElect}
 POPPos: {DEFAULT|<ui>}
STATHist? [{HIST.pt|MEAN|NWFm|PP|RMSDev|
 SIGMA1|SIGMA2|SIGMA3}]
SUB <id> <ui> <link>:<arg>
 LABEL: <qstring>
 MODe: {HIGHlight|OFF|ON|SElect|UNSElect}
 TYPE: {BOX|RULE|TEXT}
 X: <ui>
 XLEN: <ui>
 Y: <ui>
 YLEN: <ui>
SUBLEN <id>?

External I/O Commands

ALTinkjet <link>:<arg>
 DIRection: {HORiz|VERT}
 FORMat: {DRAft|HIREs|REDUced}
 PORT: {CENTronics|GPib|RS232}
BITMap <link>:<arg>
 DATACompress: {ON|OFF}
 DATAFormat: {BINary|BINHex}
 DIRection: {HORiz|VERT}
 FORMat: {DITHERed|DRAft|HIREs|REDUced|SCREen}
 PORT: {CENTronics|GPib|RS232}

External I/O Commands (Cont.)

COPY [*<link>*]:*<arg>*
 ABORT (Set-only)
 FORMAT: {DIThered|DRAft|HIRes|REDuced|SCReen}
 PRINTER: {ALTinkjet|BITMap|HPGI|PIN8|PIN24|
 TEK4692|TEK4696|TEK4697}
 START (Set-only)
DEBUg *<link>*:*<arg>*
 GPib: {ON|OFF}
 RS232: {ON|OFF}
HPGI *<link>*:*<arg>*
 COLOR*<ui>*:*NRx*
 COLOR: DEFAULT
 FORMAT: {DRAft|HIRes|SCReen}
 PORT: {CENTronics|GPib|RS232}
PIN8; PIN24 *<link>*:*<arg>*
 FORMAT: {DRAft|HIRes|REDuced}
 PORT: {CENTronics|GPib|RS232}
RS232 *<link>*:*<arg>*
 BAUD:*<NRx>*
 DELAY:*<NRx>*
 ECHO: {ON|OFF}
 EOL: {CR | CRLf | LF | LFCr}
 FLAGging: {SOFT|HARD|OFF}
 PARity: {ODD|EVEN|NONE}
 STOPBits:*<NRx>*
 VERBoSe: {ON|OFF}
TEK4692 *<link>*:*<arg>*
 COLOR*<ui>*:*<NRx>*
 COLOR: DEFAULT
 DIREction: {HORiz|VERT}
 FORMAT: {DIThered|DRAft|HIRes|SCReen}
 PORT: {CENTronics|GPib|RS232}
TEK4696; TEK4697 *<link>*:*<arg>*
 COLOR*<ui>*:*NRx*
 COLOR: DEFAULT
 DIREction: {HORiz|VERT}
 FORMAT: {DIThered|DRAft|HIRes|REDuced|SCReen}
 PORT: {CENTronics|GPib|RS232}

Label and Text Commands

LABABS *<link>*:*<arg>*
 PCTg:*<NRx>*
 XCOORD:*<NRx>*
 YDIV:*<NRx>*
LABel *<link>*:*<arg>*
 DELEte: {ALL|FPS[*<ui>*]] *<qstring>* | STO[*<ui>*]]
 TRACe[*<ui>*]] (Set-only)
 DISPlay: {ON|OFF}
 FPS*<ui>*:*<qstring>*
 STO*<ui>*:*<qstring>*
 TRACe*<ui>*:*<qstring>*
LABREL *<link>*:*<arg>* (Set-only)
 PCTg:*<NRx>*
 XCOORD:*<NRx>*
 YDIV:*<NRx>*
TEXT {CLEAr|*<link>*:*<arg>*} (Set-only)
 STRing:*<qstring>* (Set-only)
 X:*<ui>*
 Y:*<ui>*

Measurement Commands

BASeline *<NRx>*
COMpare {ON|OFF}

DAInt {WHOLE | SINGLE}
 DISPersion {PP | RMSDev}
 DISTal <NRx>
 DLYtrace TRAcE <ui>
 HNUmber <NR1>
 JITT.histpt?
 JITTLEvel?
 JITTLocation {CROSS | MESial}
 LMZone <NRx>
 MEAS?
 <meas> ?
 <meas> ::= ({AMPLitude | CROSS | DELAY | DUTY |
 EXTInction | FALtime | FREq | JITTER | GAIN | MAX |
 MEAN | MID | MIN | NOISE | OVERshoot | PDElay |
 PERIOD | PHASE | PP | RISEtime | RMS | SFREquency |
 SKEW | SMagnitude | THD | TTRig | UNDERshoot |
 WIDTH | YTEnergy | YTMns_area | YTPis_area})
 MEDge
 MESial <NRx>
 MLEvel {ABSOLute | BASEDelta | RELative | TOPDelta}
 MHLimit <meas> [<ui>]: <NRx>
 MLEvel {ABSOLute | BASEDelta | RELative | TOPDelta}
 MLLimit <meas> [<ui>]: <NRx>
 MSCount <NRx>
 MSList {EMPTY | <meas> [<ui>] [, <meas> [<ui>] ...]}
 MSLOpe {PLUS | MINUS}
 MS <meas> ?
 MSNum?
 MStat?
 MSys {ON | OFF}
 MTIme {ABSOLute | RELative}
 MTRack {BASeline | BOTH | OFF | ON | TOPline}
 NEDGE
 NOIS.histpt?
 NOISLocation {BASeline | TOPline}
 PFResult?
 PFTest {OFF | ON}
 PINdex <ui>
 PROXimal <NRx>
 REFLevel <NRx>
 REFset <link>: <arg>
 CURRENT: <meas> [<ui>] (Set-only)
 <meas> [<ui>]: <NRx>
 REFTrace TRAcE <ui>
 RMZone <NRx>
 SHILO
 SMOde {HARmonic | PEAK}
 SNRatio <NRx>
 STATistics {ON | OFF}
 TOPline <NRx>
 TTAverage <NRx>

Miscellaneous/System Commands

ABStouch {CLEAR | <NRx> , <NRx>}
 DATE <qstring> = "<dd> - <mon> - <yy>"
 DEF <qstring> , <qstring> (Set-only)
 DSYmenu [<link>:] <arg>
 {ALL Wavfrm | CURSor | DISPlay | EXTFeatures |
 MEAS | STORE Recall | TRIGGER | UTILITY1 |
 UTILITY2 | WAVfrm | <link>: <arg>}
 EXTMenu: {MENU <id> | NONE}

FEOI (Set-only)
 FPAnel {ON|OFF}
 FPUdate {ALWays|EMPTy|NEVer}
 INIt (Set-only)
 LONGform {ON|OFF}
 PATH {ON|OFF}
 POWERon?
 PROBE {NT|NTAuto|SETSeq}
 SPEaker {ON|OFF}
 TIME <qstring> = "<hh>:<mm>:<ss>"
 UNDEF {<qstring>|ALL} (Set-only)
 UPTime?

Status and Event Commands

CONFig?
 EVENT?
 ID?
 IDProbe?
 PIVersion?
 RQS {ON|OFF}
 SRQMask <link>:<arg>
 ABStouch: {ON|OFF}
 CALDue: {ON|OFF}
 CMDerr: {ON|OFF}
 EXErr: {ON|OFF}
 EXWarn: {ON|OFF}
 IDProbe: {ON|OFF}
 INErr: {ON|OFF}
 INWarn: {ON|OFF}
 MENTouch: {ON|OFF}
 OPCmpl: {ON|OFF}
 USER: {ON|OFF}
 STByte?
 UID <link>:<arg>
 CENter: <qstring>
 LEFt: <qstring>
 MAIn: <qstring>
 RIght: <qstring>

Time Base/Horizontal Commands

MAINPos <NRx>
 TBMain; TBWin <link>:<arg>
 LENGth: <NRx>
 TIME: <NRx>
 ? XINcr (<NR3>)
 WIN1Pos <NRx>
 WIN2Pos <NRx>

Triggering Commands

TR?
 TRMain <link>:<arg>
 ALEvel: <NRx>
 ANLevel: <NRx>, {VOLts|DIVS}
 COUpling: {AC|ACLf|ACHf|ACNoise|DC|DCHf|
 DCNoise|Hlbw}
 MODE: {AUTO|AUTOLevel|NORmal}
 SLOpe: {PLUs|MINUs}
 SOURce: <qstring>
 ? STATus ({TRG|NOTrg})
 TIHoldoff: <NRx>
 TRWin <link>:<arg>
 ALEvel: <NRx>

Escape Character Set

Bits								
B8 B7 B6 B5	1 0 0 0	1 0 0 1	1 0 1 0	1 0 1 1	1 1 0 0	1 1 0 1	1 1 1 0	1 1 1 1
B4 B3 B2 B1	0 0 0 0	0 0 0 1	0 0 1 0	0 0 1 1	0 1 0 0	0 1 0 1	0 1 1 0	0 1 1 1
0 0 0 0	Ä	Å	Ä	Ä	Ä	Ä	Ä	Ä
0 0 0 1	ä	ä	ä	ä	ä	ä	ä	ä
0 0 1 0	Ö	ö	ö	ö	ö	ö	ö	ö
0 0 1 1	ö	ö	ö	ö	ö	ö	ö	ö
0 1 0 0	Ü	ü	ü	ü	ü	ü	ü	ü
0 1 0 1	ü	ü	ü	ü	ü	ü	ü	ü
0 1 1 0	à	à	à	à	à	à	à	à
0 1 1 1	è	è	è	è	è	è	è	è
1 0 0 0	á	á	á	á	á	á	á	á
1 0 0 1	é	é	é	é	é	é	é	é
1 0 1 0	À	À	À	À	À	À	À	À
1 0 1 1	Á	Á	Á	Á	Á	Á	Á	Á
1 1 0 0	Æ	Æ	Æ	Æ	Æ	Æ	Æ	Æ
1 1 0 1	æ	æ	æ	æ	æ	æ	æ	æ
1 1 1 0	Ç	Ç	Ç	Ç	Ç	Ç	Ç	Ç
1 1 1 1	ç	ç	ç	ç	ç	ç	ç	ç

Key

Octal 17
Hex F
Escape character
Decimal 15